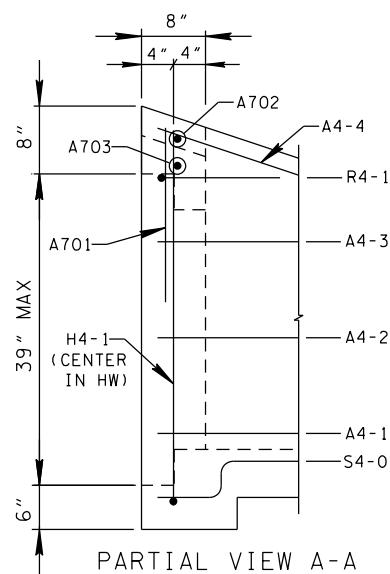
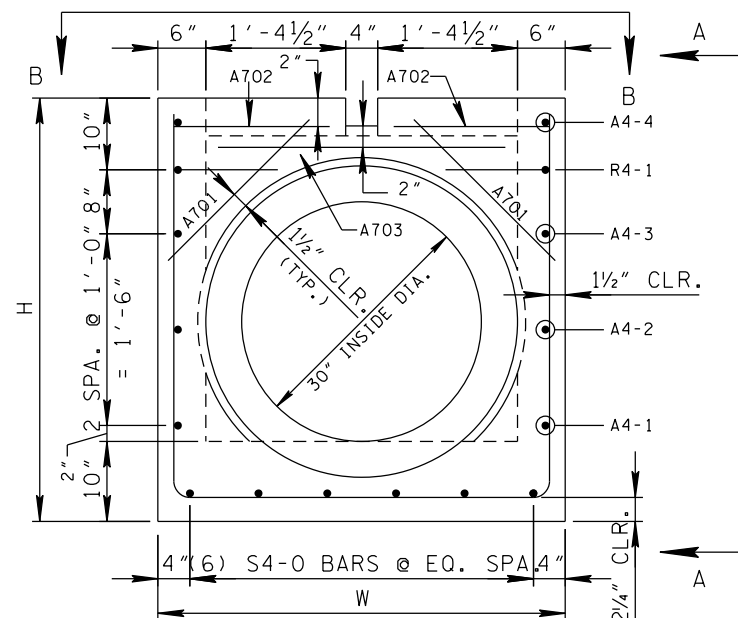


PARTIAL VIEW B-B

SEE NOTE (F)

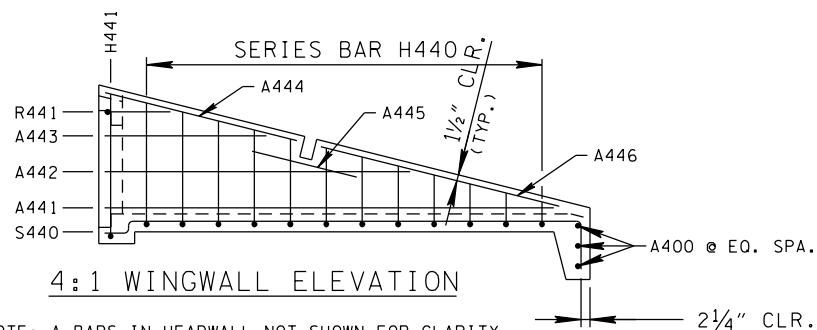
## ISOMETRIC VIEW

NOTES: SEE STD. DWG. D-PE-99 FOR STEEL PIPE GRATE DETAILS  
3/4" CHAMFER REQUIRED ON ALL EXPOSED EDGES



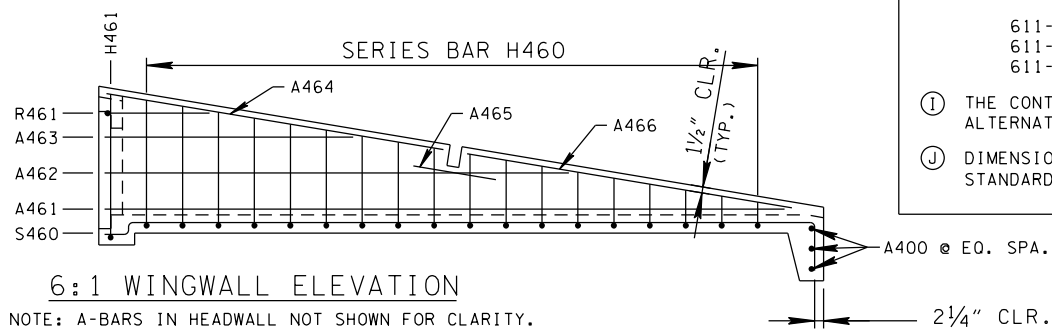
### 3:1 WINGWALL ELEVATION

NOTE: A-BARS IN HEADWALL NOT SHOWN FOR CLARITY.



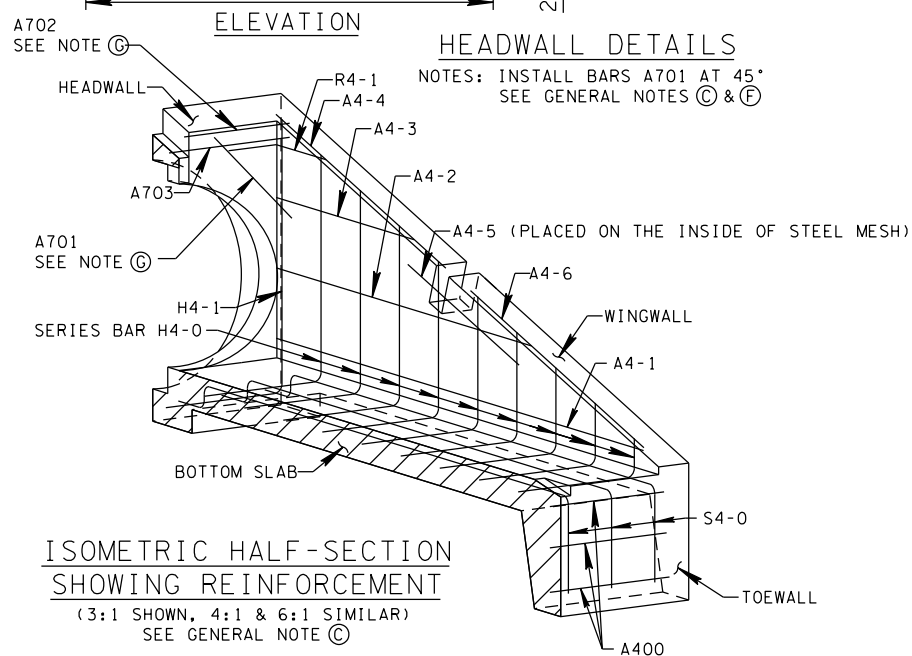
4:1 WINGWALL ELEVATION

NOTE: A-BARS IN HEADWALL NOT SHOWN FOR CLARITY.



### 6:1 WINGWALL ELEVATION

NOTE: A-BARS IN HEADWALL NOT SHOWN FOR CLARITY.



ISOMETRIC HALF-SECTION  
SHOWING REINFORCEMENT

(3:1 SHOWN, 4:1 & 6:1 SIMILAR)  
SEE GENERAL NOTE (C)

| DIMENSIONS AND QUANTITIES FOR ONE ENDWALL 30" PIPE |                             |                |                |                |         |                                  |         |                      |            |            |
|--|-----------------------------|----------------|----------------|----------------|---------|----------------------------------|---------|----------------------|------------|------------|
| SLOPE  | CONCRETE ENDWALL DIMENSIONS |                |                |                |         | STRUCTURAL STEEL PIPE DIMENSIONS |         | ESTIMATED QUANTITIES |            |            |
|  | H                           | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | W       | LG                               | WG      | CLASS "A"            | STEEL BAR  | STRUCTURAL |
|  |                             |                |                |                |         |                                  |         | CONC. CU. YD.        | REINF. LB. | STEEL LB.  |
| 3:1  | 4' - 5"                     | 10' - 5"       | 10' - 11 ¾"    | 5' - 2"        | 4' - 1" | 10' - 10 ⅝"                      | 4' - 1" | 1.84                 | 174        | 114        |
| 4:1  |                             | 13' - 8"       | 14' - 1"       | 6' - 1"        |         | 14' - 0 ⅞"                       |         | 2.32                 | 216        | 137        |
| 6:1  |                             | 20' - 2"       | 20' - 5 ⅝"     | 10' - 1"       |         | 20' - 4 ¾"                       |         | 3.29                 | 303        | 186        |

NOTE: SEE STD. DWG. D-PE-99 FOR STRUCTURAL STEEL PIPE DIMENSIONS LG & WG.

## GENERAL NOTES

- (A) DRAWING TO BE USED FOR ALL CAST-IN-PLACE AND ALL PRECAST 18" CONCRETE ENDWALLS (TYPE "U") FOR CROSS DRAINS ONLY. "U" ENDWALL TO BE PLACED AT 90° SKEW TO CENTERLINE. SEE STD. DWG. D-PE-99 FOR SKEWED CONNECTION DETAIL WHEN CROSS DRAIN IS NOT PERPENDICULAR TO CENTERLINE. CAST-IN-PLACE CONCRETE ENDWALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, SECTION 611 AND/OR SPECIAL PROVISIONS.
- (B) SEE STD. DWG. D-PE-128B FOR BILL OF STEEL & PRECAST NOTES.
- (C) "-" IN BAR DESIGNATION REPRESENTS 3, 4 OR 6 FOR 3:1, 4:1 OR 6:1 SLOPES, RESPECTIVELY.
- (D) SPLICING OF REINFORCEMENT IS ACCEPTABLE PROVIDED THAT A MINIMUM 21" SPLICE LENGTH IS USED.
- (E) TOEWALL BACK SLOPE MAY BE CONSTRUCTED VARIABLE FROM VERTICAL UP TO 15°.
- (F) 90° STEPS ARE SHOWN ON THE STEPPED HOLE DETAIL, HOWEVER MINOR VARIATIONS OF THE TAPER ARE ACCEPTABLE.
- (G) OPTIONAL STEPPED HOLE OR HOLE FORMERS ARE ALLOWED PROVIDED THE AMOUNT OF COVER BETWEEN THE PIPE OPENING AND BARS A701 AND A702 IS THE SAME OR GREATER THAN SHOWN ON THIS DRAWING.
- (H) PAYMENT WILL BE MADE UNDER:
  - 611-07.60, 30" ENDWALL (CROSS DRAIN) 3:1 EACH
  - 611-07.61, 30" ENDWALL (CROSS DRAIN) 4:1 EACH
  - 611-07.62, 30" ENDWALL (CROSS DRAIN) 6:1 EACH
- (I) THE CONTRACTOR MAY BE ELECT TO SUBSTITUTE AN APPROVED ALTERNATIVE DESIGN.
- (J) DIMENSIONAL AND REINFORCING TOLERANCES WILL BE AS SHOWN IN STANDARD OPERATING PROCEDURE (SOP) 5-3.

NOT TO SCALE

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

30" CONCRETE ENDWALL  
CROSS DRAIN WITH  
STEEL PIPE GRATE  
(FOR 3:1, 4:1 & 6:1 SLOPES)

3-01-12

D-PE-30A